**Pfizer: Competitive Dynamics Positive for Palbociclib (Breast Cancer), Multi-Year Lead Over Novartis & Lilly's CDK 4/6 Programs**

We see palbociclib as a $5+ billion product opportunity, addressing a large segment of the breast cancer market (first-line advanced/metastatic HER2-/ER+) with few treatment options. Pfizer recently reported that the roughly 165 patient phase I/II trial (PALOMA-1) met its primary PFS endpoint and disclosed that it is planning to discuss the data with regulators. We expect full phase II results at AACR in the spring (April 5-9). Given that palbociclib has Breakthrough Designation, we believe that there is a pathway for accelerated filing and review at the FDA without phase III data if the final phase II results are even close to the interim data (26.1 mos vs. 7.5 mos for the placebo).

**Competitive Dynamics: Pfizer Leads Novartis and Lilly.** From a competitive standpoint, we believe that Pfizer holds a multi-year head start over Novartis and Lilly, which both have CDK-4/6 inhibitors in development. On one hand, we see this competition as a potential competitive threat to this very important asset for Pfizer. That said, Novartis and Lilly have highlighted their CDK 4/6 programs as their highest priority mid-stage pipeline assets, which we believe further validates the drug's mechanism.

Late in 2013, Novartis moved its CDK-4/6 inhibitor into phase III trials directly from phase I. Although we have not seen much data from this drug, we note that the phase III trial looks at PFS and OS and will likely enroll over the next 18 months. In addition, Eli Lilly has a CDK-4/6 in phase II development and Lilly believes its agent may ultimately differentiate from Pfizer with regards to its tolerability as well as its ability to effectively cross the blood brain barrier. We expect Lilly to announce top-line results and phase III decisions by mid-2014 and estimate that Lilly remains approximately three years behind Pfizer, assuming a filing off of phase II data for palbociclib.

**In an Upside Case, Palbociclib Targets A $10+ billion Market.** We see palbociclib as a multi-billion product opportunity, addressing a large segment of the breast cancer market (HER2-/ER+) with few treatment options. In our view, this initial market alone (1L advanced/metastatic HER2-/ER+ breast cancer) could generate peak sales of $5+ billion per year. In addition, we see a meaningful upside case to estimates to the extent palbociclib usage moves into the adjuvant setting, similar to what happened with Herceptin in HER2+ breast cancer. We note that Pfizer’s PENELOPE-B studies palbociclib in the adjuvant setting and is expected to complete in 2019-2020.

By way of comparison, Herceptin generated over $6 billion of sales in its 1L and adjuvant HER2+ breast cancer indications in 2013. Given that HER2+ accounts for approximately 20% of breast cancer patients and HER2-/ER+ accounts for approximately 60%, we estimate that palbociclib has the blue sky potential to generate $10+ billion of sales over time.

**Source:** JPMorgan/Schott, February 14, 2014

**Oncology Indication:** Breast

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